

## ABSTRACT OF THE DISCLOSURE

A plasma processing apparatus comprising a plurality of plasma processing units is provided. Each of the plasma processing units has a matching circuit connected between a radiofrequency generator and a plasma excitation electrode. Among these plasma processing units, a variation  $\langle RA \rangle$  between the maximum and minimum values of input-terminal-side AC resistances  $RA$  of the matching circuits defined by  $\langle RA \rangle = (RA_{\max} - RA_{\min}) / (RA_{\max} + RA_{\min})$  is adjusted to be less than 0.5. A variation between the maximum and minimum values of output-terminal-side AC resistances  $RB$  of the matching circuits defined by  $\langle RB \rangle = (RB_{\max} - RB_{\min}) / (RB_{\max} + RB_{\min})$  is also adjusted to be less than 0.5. The plasma processing units can be adjusted to achieve substantially uniform plasma results in a shorter period of time.